project WEB

winter 2002

Connecting Projects WILD, WET and Learning Tree in New Hampshire

Exotic Species

Minimizing Their Impacts on Habitat

People are more aware and concerned about the impact they have on all forms of life. Every day scientists gain a clearer picture of our relationship to the earth. We know four of the primary reasons species become endangered can be attributed to our behavior: habitat loss, environmental contamination, commercial exploitation, and competition from introduced or non-native species. Other reasons species become endangered are due in part to the life history of the specific plant or animal, such as overspecialization or low reproductive rate.

This issue will focus on the impacts of non-native and exotic species in New Hampshire as well as provide you with an update on the status of New Hampshire endangered species. We encourage you to learn more about the exotic species issues and to help your students understand how they can assist in minimizing their impacts on our habitats. WEB

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New Hampshire Nongame and Endangered Wildlife Program

A Reason for Hope

While New Hampshire has one of the smallest nongame and wildlife programs, there is hope. Through generous donations, moose license plate revenue, new partnerships and federal dollars, the program is expanding its work to include a wide variety of species. Here is a summary of projects last year's.

Tern Colony Success

For the past couple of years, biologists helping to restore common terns to the Isles of Shoals saw federally endangered roseate terns mingle with the commons during breeding season only to leave without nesting. This year, a pair nested and raised the first roseate chick known to fledge in the state in decades. The restoration of this tern colony paid off in big numbers, with 809 pairs of common terns nesting on Seavey Island with an estimated 1,100 chicks fledged.

Bat Colony in Town Hall Gets a New Home

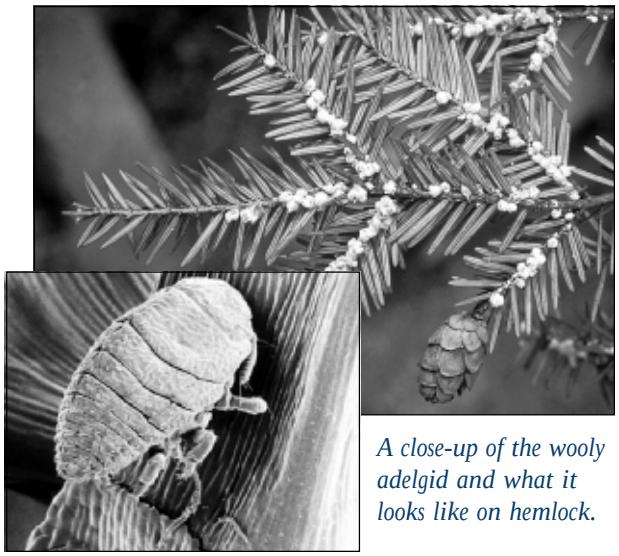
In Cornish, employees at the town hall share their workplace with thousands of bats that live in the attic. Over 5,000 little brown bats use it as a maternity ward. It is also a staging area for other bat species as they prepare to travel to their wintering areas.

In August, the Nongame and Endangered Wildlife Program built the bats a new home. Called a bat shed, the wooden structure is about the size of a garden shed and features a series of little slots in the top.

ENDANGERED *continued on page 4*

" In the delicate world of relationships, we are tied together for all time."
John Steinbeck, writer

Exotic Forest Pest Threatens New Hampshire Forests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A close-up of the wooly adelgid and what it looks like on hemlock.

Over the past century, pests introduced from other continents have impacted New Hampshire forests, both ecologically and economically. As global trade and international travel increases, so does the potential for introducing exotic pests. Some of our most notable introduced forest pests include gypsy moth, chestnut blight, Dutch elm disease, and white pine blister rust. The effects of these pests have been tremendous. The gypsy moth, introduced in Massachusetts over 100 years ago, continues to defoliate trees and cause mortality as it moves westward. Chestnut blight reduced chestnut trees from a dominant forest species to the occasional understory sapling. Most American elms, once favored as street trees for their beautiful vase-like shape, have been cut down and replaced with other species to avoid Dutch elm disease. White pine blister rust is still creating problems when white pine trees are grown too closely to the rusts' hosts of currents and gooseberries (*Ribes* species). Every time a pest is introduced, researchers and managers evaluate the potential changes it may cause in the ecosystem and how much of a threat it poses to native species.

A recent forest pest is the hemlock woolly adelgid (*Adelges tsugae*). The hemlock woolly adelgid is a small insect about the size of the period at the end of this sentence. It feeds on hemlock by sucking the sap from a tree's twigs at the base of its needles. Most of the year it can be easily recognized by the white woolly substance it surrounds itself with. A few adelgids on a tree will not cause much damage, but heavy populations can cause severe decline or death.

The hemlock woolly adelgid is a native of Japan and China, where it causes minor damage when it feeds on Asian species of hemlock. Currently, very little is known about this unique insect. In this country, it causes major damage only to eastern hemlock and Carolina hemlock. It is not clear why this is or what impact it will have on the eastern forest ecosystem. Very little attention had been paid to this pest until it reached the east coast of North America. Background information on life cycles, natural predators, and effects on the ecosystem have yet to be extensively researched.

The insect can currently be found damaging hemlocks along the east coast from North Carolina to New England. Wind, birds, or mammals can disperse the adelgid. Humans have inadvertently spread the insect when transplanting infested nursery stock. For this reason, Maine, New Hampshire, Vermont, and Michigan have imposed quarantines banning the import of nursery stock and logs from infested areas. The adelgid has been found on ornamental hemlocks in New Hampshire; attempts are being made to eradicate it before it spreads into natural forest areas.

What long-term effects could hemlock woolly adelgid have on New Hampshire's forests? Hemlocks are highly valued, not only for their beauty in a yard or forest, but also as nesting sites, winter shelter, and browse for animals. They tend to grow near streams, where they cool the water for trout habitat and prevent erosion. Hemlocks are also valued for paper and wood products. The adelgid has the potential to cause mortality in hemlock stands, therefore seriously threatening their contribution to the ecosystem and the economy.

Scientists are investigating ways to eradicate or control the adelgid with biological controls such as a predatory beetle and insect-killing fungi. Insecticides are effective against the adelgid on small ornamental trees, but are not practical for mature trees in forests. They cannot be applied to trees along streams or in wetlands, where hemlocks commonly grow. Scientists are also investigating the effects on the forest ecosystem in areas where adelgids have caused severe damage and mortality.

For more information on New Hampshire forest pests, visit the New Hampshire Division of Forests and Lands web site at www.nhdfl.org *and look in the forest protection folder.*

WEB SIGHTINGS... A SHORT-LIST OF WEBSITES FOR YOUR SURFING PLEASURE

- NH Department of Environmental Services' Exotic Species Program www.des.state.nh.us/exoticspecies/ - contains information (including identification photos and an infestation map) on New Hampshire's program to combat exotic aquatic species.
- University of Florida's Center for Aquatic and Invasive Plants – http://aquat1.ifas.ufl.edu/welcome.html - links to information, images (including FREE teacher posters) and other databases and newsletters on invasives.
- USDA's National Invasives Site – www.invasivespecies.gov - offers a gateway to federal efforts to combat invasives.
- National SeaGrant Nonindigenous Species Research and Outreach - www.nsgo.seagrant.org/research/nonindigenous/index.html - a clearinghouse of all SeaGrant publications on nonindigenous species.
- New Hampshire Division of Forests and Lands - www.nhdfl.org and look in the forest protection folder for more information on New Hampshire forest pests.
- New Hampshire Fish and Game Department - www.wildlife.state.nh.us for more information on New Hampshire's nongame and endangered wildlife.

Does Life Go On After the Invasion?

Amy P. Smagula

Pond systems are a delicate balance of chemical, physical, and biological activities that are constantly taking place. Even slight changes to one of these components can shift the ecology of the system to the detriment of the organisms that make this environment their home. Many questions have been asked about what happens to these systems once invasive plants have been introduced, especially as these non-native species have the ability to alter all three of these necessary parameters of a healthy aquatic system.

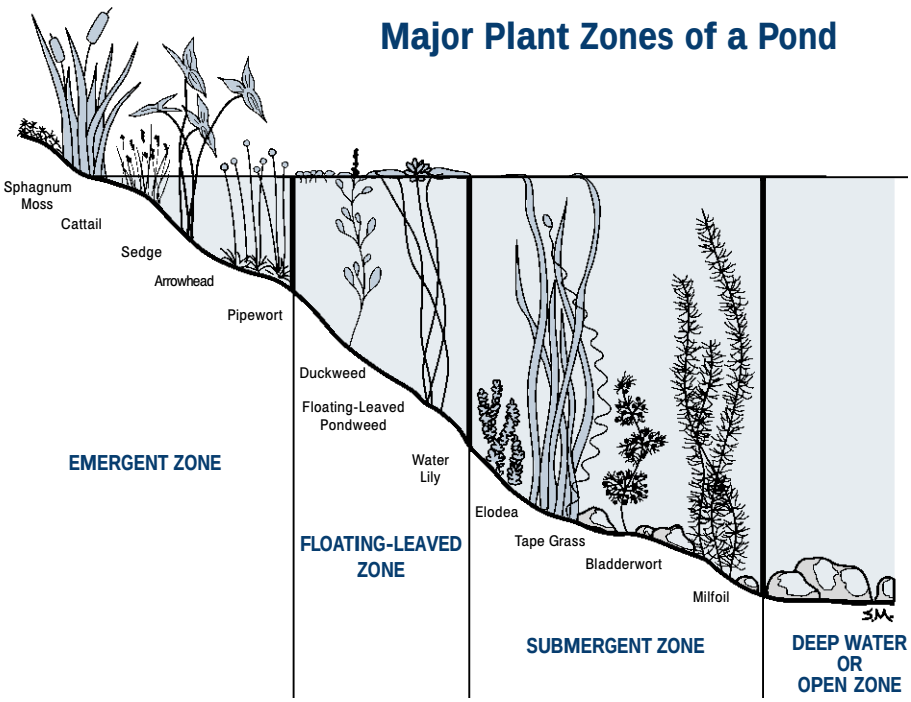
In most freshwater ponds and lakes, three zones of vegetation can be observed. The emergent zone is usually closer to shore, and the plants here include things like the common cattail and the purple flowering pickerel weed. These plants act to stabilize the shoreline and filter sediments and nutrients from water entering the lake from overland runoff. Cattails, for example, have the ability to remove nutrients and toxic metals from runoff water, thereby purifying the water entering the lake. Other emergent plants provide beneficial nesting and resting spots for birds and insects, while providing food (seeds) at the same time.

The emergent zone of plants is most impacted by exotic aquatic plants like purple loosestrife and common reed. Both of these invasive plants can grow quite thick in these shallow water habitats, to the point of precluding the presence of native plants in this zone. Unfortunately, neither purple loosestrife nor common reed has the same benefit to wildlife, as do the cattails or native grasses and rushes. The result is a decline in the diversity of animals that we see using these once native habitats.

The next zone in the lake is comprised of the floating leaved plants. Here, the very familiar yellow and white lilies are found, as well as smaller floating leaved plants like watershield and floating heart. Pond lilies and other floating plants serve to slow down the waves coming off the lakes from wind and recreational boats and can lessen shoreline erosion.

INVASION *continued on page 8*

Major Plant Zones of a Pond



Definitions for Common Terms Associated with Exotic Aquatic Plants

Native Species- A plant species that entered a defined geographic area or community on its own and has evolved over a long period of time to fit into that community.

Introduced Species- A non-native plant species that is not indigenous to an area that is brought in for a particular purpose (e.g. habitat, food, nursery trade) or that migrates on its own into an area. Other terms associated with introduced species are alien species, exotic species, non-indigenous species and non-native species.

Invasive Species- A species that is non-native that is reproducing and spreading on its own at a rate that can negatively impact the habitat in which it is found. These plants are capable of causing economic and environmental harm to the habitats they invade.

Nuisance Species- A nuisance species is one that we would typically call a 'weed'. Native and non-native species can be considered nuisances. Plants that are considered nuisances are those that typically impede various land use patterns of humans, or negatively affect native plant and animals communities in an area.

It is important to remember that not all introduced species are invasive.

ENDANGERED *continued from page 1*

A Productive Season For Bald Eagles, Peregrine Falcons and Osprey

This year, six eagle chicks fledged, the most since restoration efforts began in the late 1980's. Two of this year's nest were located on Lake Umbagog, with others near the Pontook Reservoir, on Stebbins Island in Hinsdale, along the Merimack River in Bedford and on Lake Francis in Pittsburg. Bald eagles remain an endangered species in New Hampshire, though they are proposed for removal from the federal list of threatened and endangered species. There are many issues still facing the bird in the state, including protection of winter roosting habitat on the Merrimack River.

Peregrine falcons hatched chicks in Manchester this year when they nested on the New Hampshire Tower. Overall peregrines occupied 13 territories in the state, a record number since recovery efforts began.

Forty two young ospreys took to the skies over the summer, the product of 1 successful nests. Ospreys are in every major watershed in the state except the Saco Valley.

Tenacious Piping Plover Do It Again

This year Fish and Game staff and volunteers roped off the area around seven plover nests at two coatal beaches: Hampton Beach State Park and Seabrook Town Beach. The birds managed to raise 15 chicks to fledging age, defying dogs, cats, beach crowds and even a fox.

Defining the Terms

Extinction - the condition of having been removed from existence

Endangered – a species that is in danger of extinction throughout all or a significant portion of its range

Extirpated - missing from native range but not extinct

Threatened - a species present in its range but in danger because of a decline in numbers

Blanding's Turtle Project in Full Swing

In the second year of a cooperative effort to find out what kinds of wetland habitats are most important to Blanding's turtles, biologist fitted 11 more with radio-transmitters. Last year, seven turtles were tracked during the field season and five continue to be tracked this year.

Bad and Good News for the Karner Blue Butterfly

With additional sources of funds, promising captive-rearing and habitat restoration efforts underway, hopes are high that the federally endangered Karner blue butterfly will be restored. In the captive rearing program, there is both bad and good news to report. No native eggs hatched in captivity or were found this year, although biologists will continue to look and may find some next year. The good news is that biologists brought back 200 Karner eggs from Saratoga N.Y, 150 more than were imported last year. The hope is that eventually, captive-rearing efforts will yield butterflies in high enough numbers to disperse and create a number of self-sustaining populations. Being able to regain a foothold in Concord depends on the availability of suitable habitat. Karner blues and other butterflies need open areas that are periodically disturbed so that nectar plants like wild lupine, New Jersey tea and blunt-leaved milkweed will grow. The Nongame and Endangered Wildlife Program is putting a major emphasis on creating those disturbances in conjunction with propagating the required plants. WEB

Excerpted from WILDLINES - New Hampshire Fish and Game's quarterly newsletter of the Nongame and Endangered Wildlife Program.

Activities Related to Articles in This Issue

PLT Recommends:

In *Life on the Edge*, students become advocates for endangered species of plants and animals and create "public relations campaigns" on behalf of the species.

Web of Life introduces students to specific ecosystems. They discover ways that plants and animals are connected and consider whether species are threatened or endangered.

PLT's Forest Ecology module contains two activities on non-native species. In *Home Sweet Home*, students identify exotic species and determine their effect on the local environment. *Saga of the Gypsy Moth* focuses on this introduced species and asks students to develop management plans for large-scale disturbances.

Project WET suggests:

In *Dilemma Derby*, students are asked to consider several water related dilemmas, including one about introducing exotic species for recreational fishing, to determine what they would do if faced with that situation.

Melaleuca Madness, found in the Project WET supplementary module Discover a Watershed: The Everglades has students role play the invasion of an area by an exotic species through a game of musical chairs.

Project WILD Recommends:

Here Today, Gone Tomorrow introduces students to the causes of extinction within animal species.

Figuring out what animals live in an ecosystem and how they are adapted to living in that system is explored in *Move Over Rover*.

World Travelers has students conduct field research on non-native species to create reports on the effects of these on a native population.

Ecosystem Facelift involves students simulating the steps for restoring a working ecosystem.

New Faces Added to the State's Endangered and Threatened Species List

The state's list of endangered and threatened species now includes the marbled salamander and the eastern hognose snake. These two changes are among the results of a regular update procedure conducted last fall. Every five years, committees made up of experts in science and government get together to review the list, species by species, to see what changes need to be made. Their recommendations then go to the Fish and Game Department, which makes the changes official.

Following is your copy of the latest version of the state's endangered and threatened wildlife.

— MAMMALS —

Endangered

- Canada lynx, *Lynx canadensis* ☙
- eastern small-footed bat, *Myotis leibii*

Threatened

- marten, *Martes americana*

— BIRDS —

Endangered

- pied-billed grebe, *Podilymbus podiceps*
- bald eagle, *Haliaeetus leucocephalus* ☙
- northern harrier, *Circus cyaneus*
- golden eagle, *Aquila chrysaetos*
- peregrine falcon, *Falco peregrinus*
- piping plover, *Charadrius melodus* ☙
- upland sandpiper, *Bartramia longicauda*
- roseate tern, *Sterna dougallii* ☙
- common tern, *Sterna hirundo*
- least tern, *Sterna antillarum*
- purple martin, *Progne subis*
- sedge wren, *Cistothorus platensis*

Threatened

- common loon, *Gavia immer*
- osprey, *Pandion haliaetus*
- Cooper's hawk, *Accipiter cooperii*
- arctic tern, *Sterna paradisaea*
- common nighthawk, *Chordeiles minor*
- three-toed woodpecker, *Picoides tridactylus*
- grasshopper sparrow, *Ammodramus savannarum*

— FISH —

Endangered

- Sunapee trout, *Salvelinus alipnus*
- shortnose sturgeon , *Acipenser brevirostrum* ☙

Threatened

- (none currently listed)

— REPTILES —

Endangered

- timber rattlesnake, *Crotalus horridus*

Threatened

- eastern hognose snake, *Heterodon platirhinos*

— AMPHIBIANS —

Endangered

- marbled salamander, *Ambystoma opacum*

Threatened

- (none currently listed)

— INVERTEBRATES —

Endangered

- dwarf wedgemussel, *Alasmidonta heterodon* ☙
- brook floater, *Alasmidonta varicosa*
- frosted elfin butterfly, *Incisalia irus*
- Karner blue butterfly, *Lycaeides melissa samuelis* ☙
- Persius dusky wing skipper, *Erynnis persius persius*
- ringed boghaunter dragonfly, *Williamsonia lintneri*

Threatened

- pine pinion moth, *Lithophane lepida lepida*
- pine barrens Zanclognatha moth, *Zanclognatha martha*
- cobblestone tiger beetle, *Cicindela marginipennis*

☙ Federally threatened or endangered.

NONGAME AND ENDANGERED WILDLIFE PROGRAM

ANNOUNCEMENTS

2001 PLT Guide Features Energy and Society Storylines

Project Learning Tree is excited to debut two new storylines that are features in the 2001 edition of *PLT's PreK-8 Activity Guide*. The first storyline highlights the concept that energy exists in different forms and comes from renewable and non-renewable sources. The second storyline emphasizes that societies use energy in many different ways and that human use of energy has short and long term social, economic, environmental and health impacts.

Energy & Me Music CD by Billy B

As part of PLT's new *Energy and Society project*, a new music CD is now available. It contains 15 "high energy" songs by Billy B, noted children's performing artist and songwriter, that make energy concepts easy to understand for elementary school students. The CD can be purchased for $9.95 plus shipping and handling at www.billybproductions.com.

Discovery Room Reopens

Make your reservations to visit New Hampshire Fish and Game's Discovery Room (2 Hazen Drive, Concord). The Discovery Room is open 8:15 a.m. -4:15 p.m. Group reservations can be made by contacting 271-3211.

Discover Wild New Hampshire Day

Join on us for a fun-filled family day on Saturday April 27, 2002. *Discover Wild New Hampshire Day* will celebrate our wildlife diversity with exhibits, presentation and activities. This popular event continues to grow in size and scope. This is your best place to see what the NH environmental community is doing. The event runs from 10 a.m.-3 p.m. at New Hampshire Fish and Game Department headquarters, 2 Hazen Drive, Concord. Visit our website at www.wildlife.state.nh.us or call 271-3211.

Schoolyard Habitat Grants Available

Are you doing a project on schoolyard habitat? The NH Fish and Game Department is pleased to announce that schoolyard habitat grants are available again. The grants are made possible as part of the *NH Conservation License Plate program*. For details call Marilyn Wyzga at 271-3211 or email mwyzga@wildlife.state.nh.us.

Call for EE Workshops

New Hampshire Environmental Educators is currently seeking proposals for workshops to be conducted at the 36th Annual *New England Environmental Education Alliance Conference*. The conference is being held October 4-6, 2002 at Geneva Point Conference Center, Moultonborough, NH. Proposals should relate to the conference theme, "Teaching Conservation in the Land of Plenty." More information, including the official Call For Workshops, can be found at www.neeea.org/nh/. Once there, click on Conference 2002.

Monadnock Area Classes Invited to Water Festival

On Wednesday, May 8, 2002, the Keene Water Department, in conjunction with Project WET and the NH Department of Environmental Services, will be hosting a one-day water festival for fourth and fifth grade students and their teachers. The event, a celebration of *National Drinking Water Week*, will be held at the Cheshire County Fairgrounds in Swanzey. Teachers interested in having their students attend should contact Nicole Clegg at 271-4071 or nclegg@des.state.nh.us.

NH Fourth Grade Water Science Fair Seeking Participants

The NH Drinking Water Week Coalition is currently looking for fourth grade teachers whose classes would like to participate in the *NH Fourth Grade Water Science Fair*. To participate, schools host a local fair and judge student's water-related projects. The top three projects are then sent on the state finals which will occur on Wednesday, May 8, 2002 at the *NH Drinking Water Week Festival*, being held this year in Swanzey (see previous announcement). For more information or to obtain an information packet, contact Nicole Clegg at 271-4071 or nclegg@des.state.nh.us.

Focus on NH Forests Workshop

March 16, 9:00 am to 3:30 pm, *Focus on NH Forests PLT* workshop for educators of preKindergarten through grade 8, Peabody Mill Environmental Center in Amherst. $35 registration fee. For more information, contactl NHPLT at 1-800-677-1499 or info@nhplt.org <mailto:info@nhplt.org>

Explore Nature In Your Neighborhood

National Wildlife Week April 22-28, 2002

Go to www.nwf.org/wildlifeweek for online games and educator's guide.

ERIC ALDRICH PHOTO © NHG&G

Want to see a cow moose and her calf meandering in wintery New Hampshire habitat? Come to visit New Hampshire Fish and Game's Discovery Room!

ON THE H.O.M.E. FRONT

Schools Go Native with Plant Conservation

BY MARILYN WYZGA

Rare native plants are making a comeback in the capitol. Local school children are helping restore a native plant community in the few remaining acres of Concord's pine barrens. Several agencies and organizations have partnered in this long-range effort to re-establish the host plant of the Karner blue butterfly – *Lupinus perennis*, the wild blue lupine – as well as other native plants on which the larvae feed. Fourth graders from Concord schools took part in this planting project over the past year. They worked with N.H. FISH AND GAME, the NATIONAL WILDLIFE FEDERATION and the U.S. FISH AND WILDLIFE SERVICE (USFWS) to propagate wild lupine in their classrooms, and transplant it to a 29-acre parcel of pine barrens under USFWS conservation easement.

What can your students do to conserve native and rare plants? There is a world of opportunity, both on your school grounds and in the surrounding community. New England hosts 3000 plant species; of these, 500 are considered rare or endangered. As with wildlife, there are many good reasons to conserve these plants: economic, moral, philosophical, ethical, scientific. Plants form the landscape around us, and provide food, clothing and shelter. Plants also form specific relationships with native wildlife. Some plants depend on certain wildlife to pollinate them. Others, as in the case of the Karner blue butterfly, are the primary food plant for a particular wildlife species. As Bill Brumback, conservation director for NEW ENGLAND WILD FLOWER SOCIETY, notes, "We simply do not know the value of an individual species to our ecosystem. If a single species is lost, its niche may be filled by another, but an unanswerable question remains: 'How many species can we afford to lose and still keep our ecosystem functioning?'"

Protecting these rare plants involves protecting the habitats in which they live. Another approach involves addressing the proliferation of invasive exotics. A classic example known to many is the exotic purple loosestrife *(Lythrum salicaria)*, which dominates the native wetland habitats of the rare cardinal flower *(Lobelia cardinalis)*.

Populations of rare native plants also need long-term monitoring to determine if they are declining, or rebounding from a decline. There is a need for research, land protection and partnering conservation organizations, but mostly, volunteers.

For more information, check out these resources:

✏ NEW ENGLAND WILD FLOWER SOCIETY, Framingham, MA. www.newfs.org or 508/877-7630.

What you can do:

- Use native plants to enhance wildlife habitat on your schoolyard.
- Restore native plant communities on your school grounds.
- Look for and identify rare plants on your school property.
- Monitor a local population of rare plants.
- Help eradicate invasive species.
- Volunteer with the NH Chapter of NEWFS to do the above.

NEWFS publications:

◆ *Native Plants for Attracting Wildlife* by Cathryn M. McDonough.

◆ *New England Wild Flower: Conservation Notes of the New England Wild Flower Society*. "*Invaders*".

◆ *New England Wild Flower: Conservation Notes of the New England Wild Flower Society*. Vol. 1, Number 3, 1997.

✏ Partners in New England's plant conservation effort: U.S. FOREST SERVICE, USFWS, APPALACHIAN MOUNTAIN CLUB, NATURAL HERITAGE INVENTORY, AUDUBON SOCIETY and NATURE CONSERVANCY.

✏ For alternatives to lawns and native plants for wildlife habitat, see www.nwf.org/habitats/backyard/beyondbasics.cfm in "Resource Conservation."

CARLA DUDLEY PHOTO © NHF&G

Concord fourth graders get tips on planting native lupine from Mike Amaral of the U.S. Fish and Wildlife Service.

INVASION *continued from page 3*

Two floating leaved invasives, yellow floating heart and European frogbit can compete with native lilies to dominate the surface of the water. When these invasives take over, native lilies eventually die back. These invasives can grow so thick as to block sunlight getting to the bottom of the pond, thereby short-circuiting the aquatic food web by limiting algal growth.

Moving into slightly deeper water (a few feet or more in depth), the submerged and 'feathery' plants are found. This group includes things like the native milfoil, the long floating bladderwort

Eurasian milfoil

(this plant is not rooted), and the waterweed. These underwater plants provide excellent cover for fish fry and for the slightly larger fish to hide from predation by a bass or pickerel. These plants also provide surfaces on which algae grow, providing a food source for the smaller grazing life in the pond.

When submerged invasive plants like milfoil, Hydrilla, fanwort and Brazilian elodea are introduced into these habitats, native plants are quick to succumb to the crowding pressures imposed by these invasives. Milfoil, for example, can grow up to an inch a day and reach lengths of 14-16 feet in the summer, and can quickly crowd out natives that are slower and lower growing. Initially this thick growth is beneficial for the fish fry and the insects in the waterbodies, providing both food and cover. Eventually, as the plants become too thick, larger predatory fish have difficulty finding their food, and are impacted by lower oxygen levels in the thick plant beds.

Each of these distinct plant communities forms an intermingling web that helps to sustain aquatic insect larvae, frogs, turtles, and fish. Now that exotic plants are established in many of our waterbodies, some of these native plant and animal communities may be negatively impacted. Additionally, recent studies by the University of New Hampshire suggest that we can expect declines up to 16% in property values due to the introduction of exotics into waterbodies. Recreational values are already diminishing, and potential human threats exist for weak swimmers if they are in a waterbody that is infested with exotics. There have been cases in other states where people have drowned in beds of milfoil, Hydrilla, and other exotic plants.

We need to become more active in stopping the spread of these invasives before these non-native and invasive plants irreversibly damage our aquatic ecosystems.

Project WILD receives Federal financial assistance from the US Fish and Wildlife Service. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972. The US Department of the Interior and its bureaus prohibit discrimination on the basis of race, color, national origin, age, disability, religion or sex (in educational programs). If you believe that you have been discriminated against in any program, activity, or facility, or if you desire additional information please write to:

The US Fish and Wildlife Service
Office for Diversity and Civil Rights Programs – External Affairs
4040 N. Fairfax Drive, Suite 130
Arlington, VA 22203

Coordinator Information

Judy Silverberg, PhD
Project WILD
N.H. Fish and Game Dept.
2 Hazen Drive
Concord, NH 03301
(603) 271-3211
jsilverberg@wildlife.state.nh.us

Nicole Clegg
Project WET
N.H. Department of
Environmental Services
6 Hazen Drive
Concord, NH 03301
(603) 271-4071
wet@des.state.nh.us
www.des.state.nh.us/wet (website)

Esther Cowles
Project Learning Tree
54 Portsmouth Street
Concord, NH 03301
800-677-1499
esther@nhplt.org
www.nhplt.org

New Hampshire
Fish & Game Department
2 Hazen Drive
Concord, NH 03301

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